A-1: Urban Water Conservation Grant Application Cover Sheet

1. Applicant (Organization or affiliation): City of Placentia
2. Project Title: Tri-City Park Irrigation System Upgrade

3. Person authorized to sign and submit proposal:

Name, Title	Steve Pischel
Mailing address	410 East Chapman Avenue Placentia, CA 92870
Telephone	714/993-8184
Fax	714/961-0283
E-mail	spischel@placentia.org

4. Contact person (if different):

Name, Title	
Mailing address	
Telephone	
Fax	
E-mail	

5. Funds requested (dollar amount): $58,298.
6. Applicant funds pledged (local cost share) (dollar amount): $42,500.
7. Total project costs (dollar amount): $100,798.

8. Estimated net water savings (acre-feet/year): $26,866.
   - Estimated total amount of water to be saved (acre-feet) 46.2
   - Over 10 years 462
   - Benefit/cost ratio of project for applicant: 2.2
   - Estimated $/acre-feet of water to be saved: $268,660.

9. Project life (month/year to month/year): 6/03 – 6/13
10. State Assembly District where the project is to be conducted: 60 & 72
11. State Senate District where the project is to be conducted: 29 & 33
12. Congressional District(s) where the project is to be conducted: 40 & 41
13. County where the project is to be conducted: Orange
14. Do the actions in this application involve physical changes in land use, or potential future changes in land use?
    (a) Yes
    (if yes, complete the land use check list at http://www.calfed.water.ca.gov/adobe_pdf/Questionnaires_EC_Permits_Land Use.pdf and submit it with the proposal
    (b) No NO

A-2: Application Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the application;

The individual signing the form is authorized to submit the application on behalf of the applicant;

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the application on behalf of the applicant; and

The applicant will comply with all terms and conditions identified in this Application Package if selected for funding.

	Steve Pischel, Community Services Director	11/21/02
Signature	Name and Title	Date

A-3: Application Checklist

Complete this checklist to confirm all sections of this application package have been completed.

Part A: Project Description, Organizational, Financial and Legal Information
- ☑ A-1 Urban Water Conservation Grant Application Cover Sheet
- ☑ A-2 Application Signature Page
- ☑ A-3 Application Checklist
- ☑ A-4 Description of project
- ☑ A-5 Maps
- ☑ A-6 Statement of work, schedule
- ☑ A-7 Monitoring and evaluation
- ☑ A-8 Qualification of applicant and cooperators
- ☑ A-9 Innovation
- ☑ A-10 Agency authority
- ☑ A-11 Operation and maintenance (O&M)

Part B: Engineering and Hydrologic Feasibility (construction projects only)
- ☑ B-1 Certification statement
- ☑ B-2 Project reports and previous studies
- ☑ B-3 Preliminary project plans and specifications
- ☑ B-4 Construction inspection plan

Part C: Plan for Environmental Documentation and Permitting
- ☑ C-1 CEQA/NEPA
- ☑ C-2 Permits, easements, licenses, acquisitions, and certifications
- ☑ C-3 Local land use plans
- ☑ C-4 Applicable legal requirements

Part D: Need for Project and Community Involvement
- ☑ D-1 Need for project
- ☑ D-2 Outreach, community involvement, support, opposition

Part E: Water Use Efficiency Improvements and Other Benefits
- ☑ E-1 Water use efficiency improvements
- ☑ E-2 Other project benefits

Part F: Economic Justification, Benefits to Costs Analysis
- ☑ F-1 Net water savings
- ☑ F-2 Project budget and budget justification
- ☑ F-3 Economic efficiency

Appendix: Benefit/Cost Analysis Tables
- ☑ Tables 1; 2; 3; 4a, 4b, 4c, 4d; and 5

A-4: Description of Project

The proposed Tri-City Park Water Conservation Project is a water management and conservation project. The primary portion of the project involves the installation of real-time moisture sensors units designed for use in automated irrigation systems.

The moisture sensor units regulate water usage in automated irrigation systems and are designed to

1. Prevent or reduce over-watering of subject landscapes;
2. Increase the efficiency of automated irrigation systems; and
3. Save both water and power.

Each moisture sensor unit consists of:

1. One Moisture Sensor Probe: 6" x _"
2. UL Approved Underground Cable
3. One Encapsulated Electronics Box: 2" x 2 _" x 1"
4. Waterproof Wire Nuts / Petroleum Capsules

The moisture sensor units are installed as follows:

1. The Moisture Sensor Probe is placed in the ground horizontally at the flora root level;
2. The Moisture Sensor Probe is connected to the EEB;
3. The EEB is connected to the irrigation valve.

Once installed, the moisture sensor units control the amount of watering time as pre-set by the irrigation system timer or controller. Using the existing 24 VAC which powers the irrigation system, the moisture sensor units interrupt the signal sent by the timer/controller whenever the Probe "senses" there is sufficient moisture in the soil to promote proper growth. For example, if a timer/controller is pre-set to water a section of landscape for 40 minutes and the soil becomes sufficiently irrigated after only 10 minutes, the Probe will send an electronic signal to the EEB and prevent the additional 30 minutes of watering time and 30 minutes of the electricity required to power the irrigation system. The moisture senor units are adjustable to any soil classification or texture and can be easily disabled to permit periodic heavy irrigation to promote new growth, to leach the soil of impurities or for other purposes.

Approximately, ninety moisture sensors units will be installed at Tri-City Park at each irrigation value. A central computerized irrigation control system will also be installed as part of the project.

Although totally located within the City of Placentia, the Tri-City Park borders the cities of Brea and Fullerton and is used by residents of all three communities. Over 250,000 people use the park annually for commuting and recreational activities. The Tri-City Park Authority, which is made up of representative of the three cities, serves as the governing authority. The City of Placentia serves as the lead agency for operations and maintenance.

A-5: Maps

Photos of Tri-City Park and a site map of the park are included on the following pages.

A-6: Statement of Work and Schedule

A Project Schedule for the installation of the moisture sensor units follows Tri-City Park site map.

A-7: Monitoring and Evaluation

H2O Strategies of Manhattan Beach, California has been asked to assist in the Tri-City Park Water Conservation Project through the installation of H2O Strategies' MCS 1000 System.

Tri-City Park is a public park encompassing approximately 40 acres. Approximately eight (8) acres consists of a lake with the remaining 32 acres devoted to multi-purpose use including: campgrounds, picnic areas, play areas, vehicle parking, grassland, trees and shrubbery. The terrain is undulating with some severe sloping. Overall quality of the groundcover is above average with some brown spotting, inconsistent turf quality and worn areas due, it appears, to heavy pedestrian traffic. Given the number and location of trees, the grounds contain numerous shaded areas.

To properly monitor the operation of the MCS 1000 Units and to insure that proper water savings are realized, H2O Strategies will conduct a complete on-site inspection of the MCS 1000 Units on a twice-monthly basis for the immediate 12 month period following installation.

The Public Works Department has made available the water bills for Tri-City Park for the period: September 2001 through November 2002. This 15-month period will constitute the Baseline Period.

H2O Strategies will document any water savings by comparing the actual water used for each billing period as detailed on the water bills received from Southern California Water to the Baseline Period, as follows:

The Baseline Period will be compared to the current Billing Period. Therefore, for example, if the Billing Period is monthly, the Baseline for January will be compared to the Total Water actually used for January, the February Baseline will be compared to the February Total Water actually used and so on.

The Total Water used shall be subtracted from the Baseline Period amount for each Billing Period to determine the Water Savings. If the Total Water used is less than the Baseline amount, the difference shall constitute the Water Savings for that Billing Period. If the Total Water used is equal to or more than the Baseline, there will be no Water Savings for that Billing Period.

For each Billing Period where there is a Water Savings, the amount of savings shall be calculated as follows: Water Savings x Current Water Rate(s) = Dollar Amount Saved.

A-8: Qualifications of the Applicant and Cooperators

The City of Placentia has the quality of employees and level of staffing to successfully implement and maintain the Tri-City Park Water Conservation Project.

The Community Services Director, Steve Pischel, will have overall responsibility for coordinating and implementing the project. Steve Pischel is a graduate of San Diego State University with a BA in Physical Education. He has been with the City of Placentia for fifteen years and has overseen many park development and improvement projects. These include playground renovations, facility development and construction (Placentia Champions Sports Complex), facility renovation projects (Whitten and Gomez Pool Restorations, building upgrades) and design development for upcoming revitalization projects (Whitten Community Center, Human Services Renovation, Backs Community Building and Expansion).

In his position of Community Services Director for the City of Placentia Steve Pischel is responsible for overall coordination of the administrative services, recreation services, facility management, cable services, human services and cultural arts. He provides staff support to the Tri-City Park Authority, the Recreation and Parks Commission, the Cultural Arts Commission, the Heritage Committee and the Taste of Placentia.

Facilities Management Division
The Facilities Management Division coordinates park design and development; applies for and administers grants; and provides staff support to the Tri-City Park Authority. On a day-to-day basis, the Facilities Management Division schedules, processes and coordinates permits for City facilities and Placentia Yorba Linda Unified School District/City athletic fields; assigns part-time staff to oversee all building and field usages by permits; prepares maintenance/vandalism reports; and stores and maintains an inventory of supplies and equipment.

Steve Pischel will coordinate with the Tri-City Park Authority, staff from the cities of Brea and Fullerton, and the City of Placentia Department of Public Works to successfully complete the proposed Tri-City Park Trail Restoration Project.

Resumes of Steve Pischel, Community Services Director and Christopher Becker, Director of Public works are included on the following pages.

A-9: Innovation

The project proposed in this application is very innovative while being practical and proven. The system proposed for installation enhances water efficiency in automated irrigations systems by preventing or reducing over-watering of landscaped areas. When the landscape has received sufficient irrigation the system sends an electrical signal that shuts off the water value preventing further and unnecessary watering. The system proposed in this application has been developed, tested and patented by H2O Systems of Manhattan Beach, California.

H2O Strategies' patented Moisture Control Sensor Technology works on the principle of electrical resistance. The MCS 1000 is an electrical conductivity probe that measures Capacitance. Capacitance measures the electronic conductivity of a substance utilizing two different types of metals as a capacitor in the soil. The MCS 1000 measures soil moisture by how well a current of electricity passes between two dissembler metals separated by a dielectric (a material that does not readily conduct electricity).

Detail descriptions and MCS 1000 Test Report and Results are included in Section 2.

A-10: Agency Authority

Address the following five questions pertaining specifically to this application.

1. Does the applicant (official signing A-2, Application Signature Page) have the legal authority to submit an application and to enter into a funding contract with the State?
   The City of Placentia has the legal authority to submit an application and enter into a funding contract.

2. What is the legal authority under which the applicant was formed and is authorized to operate?
   A copy of the Joint Powers Agreement between the cities of Placentia, Fullerton and Brea, creating the Tri-city Park authority is included with this application in Section 4.

3. Is the applicant required to hold an election before entering into a funding contract with the State?
   No election is required before entering into a funding contract with the State.

4. Will the funding agreement between the applicant and the State be subject to review and/or approval by other government agencies? If yes, identify all such agencies (e.g. Local Area Formation Commission, local governments, U.S. Forest Service, California Coastal Commission, California Department of Health Services, etc.).
   The City of Placentia will have full discretion regarding the funding agreement.

5. Is there any pending litigation that may impact the financial condition of the applicant, the operation of the water facilities, or its ability to complete the proposed project? If none is pending, so state.
   There is no pending litigation.

A-11: Operations and Maintenance

(Required for construction projects only, including meter installations.)

A Budget Report for the Tri-City Park is included on the following pages. Revenues for the operation of the park are detailed in the report.

Expense participation for the three cities of Brea, Fullerton and Placentia is presented in the Tri-city Park Joint Powers Agreement, Exhibit B, which can be found in Section 4 of this application.

Table 1: Capital Costs

	Capital Cost Category *(a)*	**Cost** *(b)*	**Contingency Percent** *(c)*	**Contingency $** *(d)*	**Subtotal** *(e)*
				(bxc)	***(b+d)***
(a)	Land Purchase/Easement				
(b)	Planning/Design/Engineering				
(c)	Materials/Installation	$42,600	3%	$1,278	$43,878
(d)	Structures				
(e)	Equipment Purchases/Rentals	$14,000	3%	$420	$14,420
(f)	Environmental Mitigation/Enhancement				
(g)	Construction/Administration/Overhead				
(h)	Project Legal/License Fees				
(i)	Other				
(j)	Total **(1)** (a + ... + i)				$58,298
(k)	Capital Recovery Factor: use Table 6	.1359			
(l)	Annual Capital Costs (j x k)				$7,923

(1) Costs must match Project Budget prepared in Section F-2.

Table 2: Annual Operations and Maintenance Costs

Administration *(a)*	**Operations**	**Maintenance**	**Other** *(d)*	**Total** *(e)*

	(b)	*(c)*		
$1,250	$1,500	$1,500	$0	$4,250

Table 3: Total Annual Costs

Annual Capital Costs (1) *(a)*	**Annual O&M Costs** (2) *(b)*	**Total Annual Costs** *(c)* *(a+b)*
$7,923	$4,250	$12,173

(1) From Table 1 line (l)
(2*)* From Table 2 Total, column *(e)*